

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1 – 39. (Canceled)

40. (Currently Amended) A detection apparatus to detect surgical objects in a work area, the surgical objects marked by respective resonant tag elements that produce narrowband return signals in response to energization, the detection apparatus comprising:

a handheld wand having at least three mutually orthogonal transmit/receive antenna elements arranged to individually transmit in respective coordinate directions and to receive any narrowband return signals;

a first electronic circuit coupled to the transmit/receive antenna elements of the handheld wand and configured to cause each of the transmit/receive antenna elements to emit varying wideband interrogation signals in a round-robin succession during a transmit portion of respective transmit and receive cycles and to cause the transmit/receive antenna elements to not emit any interrogation signals during any of the receive portions of the transmit and receive cycles; and

a second electronic circuit coupled to the transmit/receive antenna elements of the handheld wand and configured to determine from a receipt of any of the narrowband return signals during the receive portion of the respective transmit and receive cycles whether any of the resonant tag elements are present in the work area, wherein ~~a number of the~~ transmit and receive cycles of each of the transmit/receive antenna elements are clocked so as to avoid an overlap with ~~a number of the respective~~ transmit and receive cycles of the others ones of the transmit/receive antenna elements.

41. (Previously Presented) The apparatus of claim 40 wherein the first electronic circuit is configured to produce a pulse-width varying wideband interrogation signal.

42. (Previously Presented) The apparatus of claim 40 wherein the first electronic circuit is configured to produce a voltage varying wideband interrogation signal.

43. (Canceled)

44. (Previously Presented) The detection apparatus of claim 40 wherein the first electronic circuit causes the transmit/receive antenna elements to emit the varying wideband interrogation signals as a plurality of pulses adapted to additively build energy in the resonant tag elements, and

the second electronic circuit discriminates the narrowband return signals from noise based on a magnitude of a resonance decay that commences after a turn-off of at least one of the pulses.

45. (Previously Presented) The detection apparatus of claim 44 wherein the at least one narrowband return signal is un-modulated.

46. (Previously Presented) The detection apparatus of claim 44 wherein the at least one narrowband return signal is centered about a specific, but not predetermined frequency.

47.-49. (Canceled)

50. (Previously Presented) The detection apparatus of claim 44 wherein the second electronic circuit includes a digital signal processor (DSP) adapted to filter the at least one narrowband return signal from noise.

51. (Previously Presented) The detection apparatus of claim 44 wherein the first and the second electronic circuits are part of the handheld wand adapted to detect any surgical objects marked by the resonant tag elements in the work area, including a surgical area internal to a patient.

52.-58. (Canceled)

59. (Previously Presented) The detection apparatus of claim 40 wherein the second electronic circuit includes a Bessel low pass filter adapted to narrow a bandwidth of the noise.

60. (Canceled)

61. (Canceled)

62. (Previously Presented) The detection apparatus of claim 40 wherein the varying wideband interrogation signal has a randomly varied frequency.

63. (Previously Presented) The detection apparatus of claim 62 wherein the frequency of the varying wideband interrogation signal is randomly varied by alteration of a time interval between successive drive pulses.

64. (Previously Presented) The detection apparatus of claim 40 wherein the wideband interrogation signal is varied by the first electronic circuit so as to increase a signal to noise ratio.

65. (New) A detection apparatus to detect surgical objects in a work area, the surgical objects marked by respective resonant tag elements that produce return signals in response to energization, the detection apparatus comprising:

a handheld wand having at least two transmit/receive antenna elements arranged to individually transmit in respective coordinate directions and to receive any return signals; and

a transmitter and receiver communicatively coupled to the transmit/receive antenna elements of the handheld wand and configured to emit a number of pulsed wideband interrogation signals via successive ones of the transmit/receive antenna elements in round-robin succession during respective transmit portions of an interrogation cycle and to detect any return signals received during a receive portion of the transmit cycles during which the transmitter and receiver does not emit any interrogation signals.

66. (New) The detection apparatus of claim 65 wherein the transmitter and receiver produces a pulse-width varying wideband interrogation signal.

67. (New) The detection apparatus of claim 65 wherein the transmitter and receiver produces a voltage varying wideband interrogation signal.

68. (New) The detection apparatus of claim 65 wherein the detection apparatus transmitter and receiver receives narrowband return signals and discriminates the received narrowband return signals from noise based on a magnitude of a resonance decay that commences after ceasing to emit the pulsed wideband interrogation signals.

69. (New) The detection apparatus of claim 65 wherein the detection apparatus transmitter and receiver receives unmodulated narrowband return signals and discriminates the received unmodulated narrowband return signals from noise based on a magnitude of a resonance decay that commences after ceasing to emit the pulsed wideband interrogation signals.

70. (New) The detection apparatus of claim 65 wherein the transmitter and receiver randomly varies a frequency of the wideband interrogation signal.

71. (New) The detection apparatus of claim 65 wherein the transmitter and receiver varies the wideband interrogation signal to increase a signal to noise ratio.